Connecticut Industry



June 1931

The Human Factor in Industry By E. Kent Hubbard

The Land of Scenic Splendor By D. D. Tuttle

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published monthly by

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SUBSCRIPTION PRICE \$1.50 THE YEAR

EXECUTIVE OFFICES 50 LEWIS ST., HARTFORD

20 CENTS THE COPY

L. M. Bingham, Editor

Entered as second-class matter January 29, 1929, at the post office at Hartford, Conn., under the Act of March 3, 1879.

VOL. IX

JUNE, 1931

No. 6

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By E. Kent Hubbard

For more than a century the human element was merely a gray background in an industrial picture highlighted with rapidly changing combinations of money, materials and methods. How the human factor came to be vital, and to what extent it is now being developed, is interestingly told in

THE LAND OF SCENIC SPLENDOR By D. D. Tuttle

A high-sounding title that is made realistic by more than 400 sparkling lakes, numerous waterfalls, snow-capped mountains, and ribbons of macadam that wind their way through wild mountain country and fertile valleys to the rock-bound coast of New Hampshire.

SHIPPERS ATTEMPT COMPROMISE ON RATE Making Basis

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The Legislature of 1931

A S this is being written the Connecticut General Assembly is in the last day of its 1931 session. Because of the somewhat unusual circumstances which have obtained as a result of the late elections it is proper that we should take stock of accomplishments and efficiency.

I am not one of those who deplore our bi-party system nor would I exchange so-called machine politics for the hit and miss hodge-podge of disorganization which we find in so many states of the union. If we accept the fact that, for the immediate future at least, the two major political parties are to vie with each other in an attempt one to outdo the other to give good government, we must admit that in the State of Connecticut we have next to an ideal situation. Regardless of the hue and cry which has been raised as to the lack of leadership in the Democratic Party in Connecticut or in the Connecticut General Assembly, the functions of the chief executive and the House of Representatives and Senate have, for the most part, been carried out intelligently.

There has not been the bitter strife between the executive and legislative branches that some would have you believe. Both have, naturally, played politics; one no more than the other. Note the appointments of His Excellency. Note his campaign recommendations and the suggestions contained in his inaugural address. Observe that every one of the twenty-five suggestions were given due consideration and that more of them were followed than have been the recommendations of any Republican governor, aided by a Republic legislature, in the last twenty years. The Legislature utilized its prerogatives and did not free itself from political considerations.

But after all, we as citizens are interested only in the result. It can be honestly said that no legislation inimical to the business interests of the people of the state as a whole was passed; and for this the members of the Legislature are primarily responsible. They were able to separate the true from the false. The governor assisted by making a number of proper recommendations to the Legislature and by subscribing to its efforts.

Governor Cross and the leaders of the Assembly may well be satisfied with their joint accomplishment.





The Human Factor in Industry

E. KENT HUBBARD

President, Manufacturers' Association of Connecticut, Inc.

N the eve of the French and Indian. Wars, the spinning jenny - prototype

Highlights of a paper delivered by the author at a recent meeting.

mankind through the genius of Hargreave and Arkwright; and the news of their exploits, traveling by pack-boat and stage-coach, was months in circling the civilized world.

Last spring the Lindberghs flew from coast to coast in fourteen hours, while telephotos of their take-off appeared in newspapers all over the country within a few hours, and a description of their landing was picked up by radio in the humblest homes concurrently with the event itself.

Thus, between the dawn of the industrial revolution and the latest

of modern industrial machinery—was given to manifestations of industrio-scientific progress stretches a scant two centuries. Compassed within that two hundred years lies the sum total of achievements that go to make up modern industry. True, some of the groundwork was laid in the dim ages beyond. Abortive experiments in the Orient account for the origin of many modern industrial phenomena. But their fruition and their full flowering came only after the curtain had been rung down on the handicraft period, and the era of the machine had set in.

Characteristically, we take a measurable pride in the fact that so large a share of the world's material advancement has been achieved within so small a part of man's known span of

life on this planet and that this short period is relatively contemporary. With an inward boastfulness, we liken it to a day consumed in frustrated and fruitless travail until the clock showed the approach of midnight when, by dint of superlative capacity or by grace of a divine spark, a masterpiece was created in the closing moments of the final hour! A comforting assurance, if it were well founded! But our complacent self-admiration is apt to be ruffled when we discover that, despite these unquestioned glories, human science and energy left one phase of industrial progress almost wholly unexplored for years.

The Four M's in Industry

Some one with a flair for the epigrammatic has epitomized industrial activity as a compact of the four "M's" — Money Materials, Methods and Men. The evolution of the race beyond the handto-mouth stage of exist-

ence opened the way to a surplus for "capital" purposes, the introduction of the corporate structure provided a vehicle for gathering small surpluses into the channel of a common productive enterprise, and the security of property rights under most modern governments affords an inviting atmosphere for the inflow of capital funds. Natural deposits supply a virtually inexhaustible source of usable basic materials for "capital goods"; and science has been applied to their usage, their betterment, their combination, and even to substitutes for those whose supply has been threatened by depletion or political emergency.

In methods we have made gigantic strides, so much so that the improvement of production technique will doubtless go down in history as the symbol of the age. Moreover, despite the spectacular advances of late years, our progress

has been one of consistent steadiness.

Human Relations Studies Stimulated by War

The intelligent utilization of man-power, however, is a comparatively recent aspiration of industry. Applied research in this domain scarcely stretches back to the "Gay Nineties." As in so many other fields of economic endeavor, the War stimulated its development, and bettered human relationships come to be recognized as dignified acquisitions for an industrial plant which would pay dividends in the form of labor supply and labor stability. The War awakened interest in the application of psychology to industrial efficiency, because in that emergency we discovered that there were many practical ways in which the science could be utilized; and some of the technique uncovered in connection with our vast mobilization problem carried over into the post-war organization of

> Like all experiments in things human, the original efforts in this field were abortive and often mis-directed. There was charlatanry and chicanery, superficiality and credulity. But at present a reasonable stabilization has been achieved.

industry.

The modern manufacturer tends to seek expert guidance in special fields. Now that the human factor in industry is coming to be recognized at its true importance, he feels the need of professional guidance in this domain; and applied psychology has meanwhile made such progress that it affords a substantial contribution to the

solution of this problem in two general ways. The first is in employe selection and placement; and for these, the psychologist has developed techniques for measuring the prospective employe's innate capacity. The second is in what may be called industrial efficiency; and this includes training the worker after employment, finding the best way to do the job, eliminating unnecessary fatigue and monotony, arranging environmental conditions that are psychologically favorable, and promoting satisfaction and good morale.

Promoting Efficiency by Regard for Human Factor

It is unfortunate that industrial efficiency, in the common understanding, connotes a benefit to the employer alone. Ideally, this is not so. It has a definite contribution to make to human



Future dissatisfaction of an employee in his job may be in a measure traceable to a brusque uninformative first interview.

welfare. Nothing in the practice of the science is designed to drive the worker to an unfair degree of effort. Rather, it is a question of finding better ways for him to work, so that with the same effort he may accomplish more. In many cases it is merely a matter of removing some obstruction to his efficiency. The mutuality of interest here is obvious.

Importance of Employe's First Impressions

The employer makes his first impression on the worker when the latter comes to the gate seeking a job. No man cares to admit that he is unemployed, and if the absence of directions forces him to inquire for the employment office, he must reveal the fact; and a prejudice is set up from that moment. Then, if he encounters a dingy and uncomfortable waiting room, a surly and uninformative interview with the hiring-clerk, and a brusque induction to the job with little or no information about its possibilities, an unfavorable impression of the factory and its management on the employe is inevitable. We are all familiar with the potency of our first experiences, and the same thing applies to the first few hours contact with an industrial

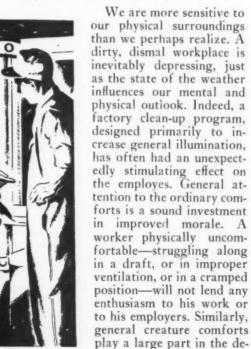
concern. If every phase of the employe's reception conspires to produce unpleasantness, it will take him some time to live down the memory of it, even though the job itself and the wages prove sat-

isfactory.

Where the personnel work is handled in comformity with psychological principles, the employment office is located so that the applicant may find it without the embarrassment of inquiry. The waiting room is reasonably comfortable. The interviewer greets the applicant with some semblance of cordiality, as though the company were interested in what he has to sell. The prospective employe is given adequate information about the proposed job, the wages which attach to it. the possibilities for promotion, the hazards connected with it, and even any of its disagreeable aspects so that there will be no likelihood of his suspecting misrepresentation later on. Once hired, he is not plunged immediately into his work, but is shown the general lay-out and various personal conveniences, and introduced to a few of his fellowworkers, with an effort to put him at ease. The foreman explains the various rules, stressing the selfish reasons for their observance, apart from their binding force as a company pronouncement. Clairvoyance is not needed to predict that this man's future attitude toward the management will be substantially more favorable than that of his less fortunate brother who was so brusquely received down the street.

Some concerns carry the idea of cordiality to the new employe even further by designating certain of the older hands as "sponsors," and by systematic manifestations of personal interest by some of the minor executives. Whether all the larger companies undertake such an elaborate reception is beside the point; the main thing is that they are all giving some degree of attention to the manner in which the new employe is received and inducted into his work. And they are not stopping there. Vocational maladjustment is a far-reaching cause of unrest, and placing the right man on the right job is of great importance. Many scientific techniques, such as mental tests and rating scales, are now in practical use for this purpose; and these, in conjunction with thorough job-specifications, are doing much toward the intelligent hiring and placement of new employes.

Physical Surroundings Important



velopment and maintenance of a cooperative spirit - sanitary facilities, a congenial place to eat, rest and recreation rooms, shower baths for



A cordial explanation of the work, the general lay-out and rules of the factory is good morale insurance for the new employee.

dirty work, and locker space. Some of these facilities are rendered compulsory by state sanitary codes but even without legal compulsion, many employers have seen fit to follow the best modern practice in this regard.

The New Worker-an Educational Problem

The employer's task usually is to take an individual who is essentially unfamiliar with the work for which he was hired and teach him a rather limited performance. Thus the new worker constitutes from the outset an educational problem. Education is not, of course, the whole story. The average factory hand is ever so limited by heredity. But where the pertinent factors are about equal, education does spell the difference between an interested and a disinterested operative. And here again psychology has an important contribution to make to industrial welfare.

Importance of Proper Habit Formation

The basic principles of the psychology of learning are just as applicable in industrial education as they are in the laboratory. It is beyond the scope of my present discussion to outline these principles in detail, and they are doubtless familiar to all of you anyway. The law of habit is exemplified in the laboratory by the cat in the cage, tempted by the sight of food just outside the door. When, after much futile clawing, he releases a certain spring, he dines, thus setting up a definite reaction to an environment and forming a habit. The law of frequency is merely a scientific formulation of the conventional statement that "practice makes perfect." The worker learning a new job must

perform the operation repeatedly before it is perfected; and it is important for him to perform the operation correctly because laboratory experiments have proved that operators trained to accuracy from the

start usually out-distance their rivals whose in-

cient.

itial aim was speed.

The law of disuse or recency is exemplified in the fact that your golf game is better in midsummer than in the spring; and the main contribution of the law to industrial learning is in the elimination of undesirable reactions. The industrial learner is just as susceptible to reward or punishment as is the cat in the experiment; and the piece-rate system of wage payment, in all its various forms, is a practical recognition of this law.

A reaction that is normally brought about by one stimulus may at times be produced by another. Thus, many children owe their fear of dark places to the fact that some thoughtless relative brought them into a dark room with an accompanying "boo." The fear response was called out by the auditory shock, but gradually becomes conditioned to the other accompanying stimulus, namely, the dark place. So, in a manufacturing plant, if a worker must react at a certain time, it is possible to teach him by giving some other signal to which he can react adequately, and then conditioning his reaction to the new stimulus. Analogy is another psychological principle of definite application in industrial education. Often, for instance, a new tool or machine will bear considerable similarity to the old one, and experience with the latter

The Vestibule School

will naturally facilitate the use of the former,

thus shortening the learning process by the

"transfer" of training from one type of work

to another.

Though often limited by heredity, ed-

ucation usually spells the difference

between an interested and efficient op-

erative and one who is disinterested,

often disgruntled and decidedly ineffi-

Some of the devices for industrial instruction deserve special mention. Prominent among them is the so-called "vestibule school," which is conducted with some success by a prominent textile mill in this state. Under this plan, certain machines used in the factory or office are set up in special quarters within the plant, and the worker is instructed in their operation under careful supervision. This type of instruction

often makes possible a wider and more far-sighted placement of the worker. He may be tried out at various machines, and thus demonstrate his capabilities, his likes and dislikes, and his personal characteristics in a more practical way than is possible under other present methods of employe selection. Then, too, the type of instruction which the learner enjoys in the "vestibule school" is apt to be more nearly

professional in character, and hence more effective, than that given by a foreman with whom production responsibilities are paramount. Again, by means of simple job tests, it is possible to keep a more adequate check on the worker's progress in a "vestibule school" than in the factory proper. In addition to these major aims, the "vestibule school" is sometimes used as a stop-gap when work becomes slack. That is, workers are put into the "vestibule school" instead of being laid off whenever possible—a device which obviously makes for a more flexible organization.

Motion Pictures as Educational Devices

The motion picture, too, is a relatively re-

cent departure in the mechanics of teaching. In most cases, the operative must get his concept of the task by watching a demonstration, and then setting his imitative faculties to work. But the difficulty is that the experts usually move too rapidly for the beginner to observe the sequence of motions in sufficient detail. Moreover, as experiments have shown, rapid motions follow a different course than slower motion destined to the same end.

Finally, it is often difficult for the experienced man to demonstrate an operation to the beginner, because he has progressed to a point where his movements are intuitive, and he cannot break them down into steps because he is unaware of their sequence even while he performs them. It is here that the motion picture can attain its greatest usefulness in industrial training. The experienced operative may be photographed while doing his work in normal fashion at his usual speed, and the novice may then observe it slowed down considerably on the screen. Since the film can be shown repeatedly, and can even be stopped to allow a more leisurely examination of some feature, this scheme combines all the advantages of the personal demonstration with the advantage of emphasis on any desired detail.

Apprenticeship

The place of apprenticeship in the program of industrial instruction is too commonplace to require more than a passing mention. The criticism most often leveled at it is that a man's progress is determined, not by his proficiency but by the calendar. To obviate some of its disadvantages, while preserving to the apprentice that practical factory atmosphere so essential to the training of a finished workman, our state trade schools now undertake to teach the boy the academic matter related to his trade at stated times during the week, while, during the remainder of the time, he is engaged in the practical or manual aspects of his task under factory supervision, continuing on the payroll of his employer at all times. Educators, under

the guidance of employers, have devised techniques for evaluating the student's progress on the basis of proficiency rather than time. This system of task-measurement is also used in the full-time work of the state trade schools.

Psychology Useful in Improving Work Methods

Psychology has a definite contribution to

The most recent and illuminating de-

parture in the mechanics of teaching

is the use of the slow-motion picture.

This method permits the student to

observe motions of the experienced

operator which cannot be readily seen

at normal working speed.

make in improvnecessary

ing the actual methods of work. It is possible to investigate the motions a worker makes with a view to determining if any are unand may be elimi-nated, or if the sequence of motions is the best

possible. One of the earliest techniques for recording work-motions for subsequent analysis is a continuous photograph of a lamp on the hand of the operator, which leaves a streak of light on the film. The speed of the motion can be recorded by connecting an interrupter to the circuit, timed to predetermined intervals. This device is still widely used, and others have been uncovered. An exhaustive outline of motion-study technique, however, would be too lengthy to discuss here. Suffice it to say that a classic example of increased efficiency produced by motion study is the investigation of bricklayers as reported by F. B. Gilbreth in his treatise on "Applied Motion Study." Careful analysis showed that the bricklayer was using about eighteen different motions, many of them unnecessary. The mechanics were trained to reach for the brick and the mortar simultaneously, rather than in sequence. An unskilled worker arranged the bricks with the best face always in the same direction. The bricks were supplied at waist height, so that stooping for every brick became unnecessary. By this and other devices, the initial eighteen motions were reduced to about five, and the average worker, instead of laying 120 bricks per hour, was enabled to lay 350 without added exertion. This is only a rudimentary application of the principles of efficiency; but the same principles are being used with equal success in more complex industrial operations.

Efficiency has been increased by a rearrangement of the tools or materials which the worker is using. In typesetting, for instance, a rear-

(Continued on page 38)

The Land of Scenic

by D. D. TUTTLE

Executive Secretary, Department of Publicity, State of New Hampshire

N area, New Hampshire is third among the much of it may be enjoyed by the traveler withstates of New England. Maine is more than three times its size; Vermont is smaller by about 200 square miles, but it outranks Massachusetts by 1,100 square miles, is nearly as large again as Connecticut and is almost eight times larger than Rhode Island.

In population, of course, New Hampshire takes precedence in New England over Ver-

mont only.

From the state's extreme southern boundary to its northern tip, the distance is 178 miles and the greatest breadth is 94 miles. Within 9,031 square miles, nature has crowded almost

every variety of landscape, except desert, that can be found anywhere in the world. New Hampshire's scenic charm is as much in diversity as in beauty, and there is plenty of both. There is altogether 310 square miles of water, embraced in 497 lakes and ponds of all sizes; some of them, such as Winnipesaukee, Sunapee, Asquam and Newfound, navigable for craft of considerable size.

Fourteen mountain peaks rise above a height of

5,000 feet, with Mount Washington more than 6,000 feet above sea level. This, with one exception, is the loftiest peak east of the Rockies, while Lake Winnipesaukee is among the largest bodies of water east of the Great Lakes.

Hills ranging from 1,000 to 3,000 or 4,000 feet in height are almost too numerous to count; and it is impossible, anywhere in the state, to wander more than a few hundred yards from the main road without coming upon a placid pond, nestling among the hills or hidden away in the woods.

State highways for many miles follow the shores of the lakes or cut through the picturesque mountain passes. All of New Hampshire's beauty is easily accessible and out once stepping out of his automobile. The trunk line roads traverse the White Mountain notches, pass within a stone's throw of Lakes Winnipesaukee, Newfound, Sunapee and Asquam and run practically along the sea wall through Hampton, Rye and Newcastle.

Driving from north to south, the motorist will pass through villages as quaint as any to be found in Old England, will see fertile farms, smiling vales, rugged mountains and thriving industrial cities and will glimpse monuments

Right-Glenn Ellis Falls, Pinkham Falls, New Hampshire.

Below-Moat Mountains and the Ledges near Intervale, New Hampshire.





Splendor

This is Number Two of a series of articles on the recreational facilities offered in the six New England states.

marking places where the early history of America was made.

Historic Lore

New Hampshire shares with Massachusetts, Rhode Island and Connecticut the honor of being one of the original 13 states and it was the first actually to adopt a constitution declaring its independence from British control. Actually, the shot heard 'round the world was not fired at Concord bridge, for several months



Lake Winnipesaukee from Abenaki Tower, New Hampshire

before the Massachusetts farmers took up arms, General John Sullivan and John Langdon led their men out from Portsmouth to seize Fort William and Mary at Newcastle and to take possession of ammunition that afterward was used against the British at the Battle of Bunker Hill. The first ride of Paul Revere was not at midnight "through Middlesex village and

farm," but from Boston to Portsmouth to warn Sullivan, Langdon and other patriot leaders that no time should be lost in expelling the British garrison from Fort William and Mary.

A bell that came from Revere's own foundry still hangs in the belfry of the Old North Church in Portsmouth and the Portsmouth Public Library is housed in a building of which Charles Bulfinch, early American architect, was the designer.

The oldest towns in the states are Portsmouth. Dover, Exeter and Hampton and they have historic shrines at every turn. After the battle of Santiago in 1898, the Spanish prisoners were quartered on an island in the Piscatagua river. near Portsmouth, and the gallant Spanish Admiral Cervera, released on parole, was a familiar figure on Portsmouth's streets, that summer. At Ports-mouth Navy Yard was held the peace conference that ended the war between Russia and Japan and at the same Navy yard, was built, in the 1860's, the ship-of-war Kearsarge that ended the career of the Confederate cruiser Alabama.

It was on another island in the Piscataqua that the sloop-of-war Ranger



Left—Paradise Falls in Lost River, White Mountains, New Hampshire.

Below—Mt. Washington, as seen from Conway, New Hampshire.



was built and it was in this ship that John Paul Jones put to sea for his first cruise under the American flag. The house in which Jones lived while the Ranger was under construction still is standing in Portsmouth.

Educational Facilities

The attractions of New Hampshire, however, are by no means exclusively those relating to American history and tradition. There is much of quaintness about Portsmouth, but it is a busy commercial center and its people, while not unmindful of the past, live very much in the present. Exeter remembers its glories of other days, but it takes pride, too, in Phillips Ex-

eter Academy, one of the greatest of preparatory schools for boys in the United States. At Concord, is another great boys' school, St. Paul's; at Hanover is Dartmouth College, famous for its high scholastic standards as well as its "Big Green" football team; and at Durham, where Sullivan had his home, is the University of New Hampshire, growing rapidly in reputation and enrollment.

At Manchester is the plant of the Amoskeag Manufacturing Company, largest cotton mill in

the world under one roof.

State Reservations

In recent years, New Hampshire has done much for the preservation of its natural beauty. Crawford and Franconia Notches (the latter with the marvelous rock profile commonly called the Old Man of the Mountain) have been made state reservations, largest of a growing chain of public parks in the lake and mountain regions. That strange stream, Lost River, in Kinsman Notch, also has been made safe, as has the wonderful forest of virgin spruce in Waterville Notch, the last having been incorporated in the White Mountain National Forest. Waterville Notch and its tract of primeval timberland are not quite so easily reached as are most of the other New Hampshire wonders, but a visit, while requiring a little spare time and a bit of patience, entails no real hard-

On the authority of State Forester John R. Foster, the Waterville spruce forest is today exactly as it was a thousand years ago.

Moderately adventurous must be the traveler who goes in search of the "Lost Arctic," on the slope of Mount Washington, but even this



Birthplace of Daniel Webster at Franklin, New Hampshire

expedition involves little or no danger. Professor Walter C. O'Kane of the University of New Hampshire has written entertainingly of this glacier scarred tract, where plants grow that exactly reproduce those of the Arctic regions.

Information for Tourists

The New Hampshire Department of Publicity has chosen for the state the descriptive name, "Land of Scenic Splendor," and the description is accurate. From the wilderness of the Far North to the rocky seacoast of Newcastle and the sandy beaches of Rye and Hampton, there is beauty to be seen in every mile of travel in New Hampshire. There is, too, comfortable accommodation for all who wish to make the New Hampshire "grand tour." Nearly 300 summer hotels have places for more than 30,-000 guests, there are fine year-around hostelries in all the cities and larger towns, smaller hotels and boarding houses are prepared to entertain many thousands more and there are well conducted overnight camping places, all subject to regulations made by the state Board of Health.

The Publicity Department maintains information booths for tourists in conjunction with local chambers of commerce and boards of trade and 15 of these places were operated last year. They served 225,773 persons, traveling in 81,179 automobiles. This established a new record for motor travel in New Hampshire, though 1930 was supposed to be a year of business depression.

A Sportsman's Paradise

The sportsman will find much to attract him to New Hampshire. The few moose and elk (Continued on page 37)

Shippers Attempt Compromise on Rate Making Basis



ONNECTICUT shippers who a re watching rate trends with a weather eye on mid-western competition are opposed to certain features of the grouping plan and rates prescribed by the Interstate Commerce Commission report in the Eastern Class Rate Investigation. The rates apply both intra-territorially and inter-territorially in Trunk Line, Central Freight Association and New England territories. The dissatisfaction has arisen because of the failure of the Commission to prescribe key rates or groupings between New England and Trunk Line territories. In instances where the Commission designated key rates, they reflect the mileage principle, but show a deflation from the basic scale of reason-

able rates of anywhere from two cents to sixteen cents on each hundred pounds on the first class rate.

When the rates were prescribed, the Commission indicated that shippers and carriers in New England and Trunk Line territories should come to some amicable agreement as to the size and extent of the groupings in the New England section in order that existing industrial communities might not suffer unduly from mid-

ings in the New England section in order that existing industrial communities might not suffer unduly from mid-

N. W. Ford, Traffic Manager of the Manufacturers Association of Connecticut, Inc., and originator of the modified grouping plan for New England and Trunk Line Shippers.

western competition in Trunk Line territory. The Interstate Commerce Commission directed the carriers to establish groups or zones around the key points. The size of these groups varied from a minimum of approximately 25 or 30 miles to a maximum of 125 to 150 miles; the size of each group depending somewhat upon the length of haul that might ordinarily be expected.

First Efforts to Compromise

The first overtures were made by the New England railroads when they proposed small groupings adjacent to the Hudson River and larger groupings farther east. This constant plan was strenuously opposed by the Shippers' Committee, the Connecticut Division of which is headed by W. F. Price, Traffic Manager of the J. B. Williams Company of Glastonbury, and a member of the Association's Transportation Committee. The carriers' plan was not considered sufficiently elastic to give justice to all shippers under all conditions. While the plan provided for the economic movement of freight

from points on both sides of the Hudson River it made no allowances for larger groupings comparable with the key rate groupings, nor did it make adequate provision for moving freight greater distances into the highly com-

(Continued on page 36)

174,000 SAVED By MAY COST REDUCTION PLAN

Johnson Motor Company, manufacturers of Johnson "Sea Horses", gives data through G. Rayniak, Vice President in Charge of Manufacturing:

"Although we increased our production from 3,600 to 30,000 motors a year within five years, we felt our production costs were too high. After a careful survey of many industrial engineering systems, we installed the George S. May Inc. Cost Reduction Plan. Standard times were set up for 10,000 operations. Foremen's Bonus and Wage Incentive Plans were put in effect. After one year's operation under the May Plan we find our actual savings exceed the \$174,000 estimated (a saving which paid for May's 9 months' work within its first month's operation). More motors have been produced with about 165 less men. The only additional clerical help required was 2 men in time study department while rates were being set. Spoilage and rejection cost has been reduced over 50%. Foremen and operators are earning more money than before the May Plan was installed."



Sea-horses — the famous trademark of the Johnson Motor Company



The quotations used in this advertisement are from a Gould report and are guaranteed authentic. Reports and data on other installations may be had on request.

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CANADA: George S. May Limited, 18 Toronto Street, Toronto



Plant of the Shelton Basket Company, Shelton, Connecticut.

The plant, built of reinforced concrete in 1911, together with storage sheds and lumber yards, covers a half-acre site. The Company, established in 1862, manufactures oak and ash hand-cut splint baskets for use in industry, the home, laundries, markets and by oyster fishermen. Eastern business is handled through the home office at Shelton. Offices and show-rooms established at the Merchandise Mart in Chicago and in West Coast cities supply adequate representation in the West.

INDUSTRIAL BRIEFS

● ● Adams Made Scovill Director

A. L. Adams of the J. H. Whittemore Company of Naugatuck was added to the directorate of the Scovill Manufacturing Company at their most recent directors' meeting held on April 20. The executive officers of the company are: president and general manager, Edward O. Goss; vice president and general superintendent, John H. Goss; vice president and superintendent of mill departments, Chauncey P. Goss, Jr.; vice president, P. A. Goss; treasurer and comptroller, L. P. Sperry; assistant treasurer, F. J. Gorse; secretary, William M. Goss; assistant secretaries, B. P. Hyde and T. P. Myers.

Unionville Firm Observes Sixtieth Anniversary

THE sixtieth anniversary of the founding of Charles W. House & Sons of Unionville, manufacturers of all-wool woven felts, was cele-

brated by the executives and overseers of the company at a dinner held during the last week of April at the Elm Tree Inn, Farmington. The anniversary of the firm was also a birthday anniversary of its present president, Everett T. House, Sr. The main feature of the evening was the presentation from the staff to the firm of an enlarged picture of the late Charles W. House, Jr., president of the company from 1908 to 1920. After the speech-making and the presentation of a gold purse to Frank Dailey from President House for the completion of twenty years of service, a motion picture was shown of a western trip taken last summer by Everett T. House.

• Hartpence Resigns at Acme Wire

E. L. Hartpence, vice president of the Acme Wire Company, New Haven, presented his resignation at the last meeting of the board of directors. The reason for his withdrawal is said to be on account of ill health. He still continues as a director of the company.

Sikorsky to Test Giant Oversea Plane in June

THE giant 40-passenger, 4-engined seaplane, which is now practically completed at the plant of the Sikorsky Aircraft Company in Bridgeport, is scheduled for a flight test some time in June. According to W. Irving Glover,

Second Assistant Postmaster General, this plane will not only be used to carry mail on the 800-mile route between the United States and Bermuda, but on the projected trans-Atlantic mail and passenger line between Bermuda and the Azores. The new plane is said to have a cruising radius sufficient to permit non-stop operation over the 2000 miles between the two islands. It will be operated by the Pan-American Airways.

Moody Made Secretary of Hartford County Association

JOSEPH E. Moody was appointed secretary and assistant manager in charge of employment at the Manufacturers' Association of Hartford

County at a meeting of the board of managing directors held on April 22. It was announced that Charles H. Lay, secretary of the association for 27 years, has retired because of ill health.

Mr. Moody will be in charge of the association's employment bureau, which serves as a clearing house for members. His experience has ranged from boss of a lumber camp to statistician in a brokerage house. He is a native of Hartford and a graduate of Cornell University in the class of 1928.

At the next meeting of the board of managing directors, a committee will be appointed to prepare a slate of officers for the coming year to be acted upon at the annual session, which is planned to be held in Hartford on June 11.

• Underwood Re-Elects Present Officers

AT a recent meeting of the board of directors

of the Underwood-Elliott Fisher Company, the following officers were re-elected: Philip D. Wagoner, president and general manager; Reeve Schley, first vice president; Charles S. Duncan, secretary-treasurer; and Edward P. Baines, comptroller.

Majority of Connecticut Towns on Daylight Saving Time

ACCORDING to the results of a survey made by

the Connecticut Chamber of Commerce in cooperation with 55 local chambers, all communities of the state are now operating on daylight saving time, with the exception of Guilford, Kent and Windsor, where partial compliance is indicated.

Frank Goodchild, vice president of J. & J. Cash, Inc., of South Norwalk, for more than 15 years, has just been elected president of the company to succeed the late Sidney Cash. He is the first head of the firm, not a member of the Cash family, in over 100 years.

LAST MINUTE FLASHES

Starting June 1, practically all departments of the U. S. Rubber Company at Naugatuck started to work on at least a five-day weekly schedule.

The International Silver Company of Meriden have just been awarded a \$25,000 contract to furnish the silverware for two new ships now being built for the Eastern Steamship Company.

W. R. Webster Gets Committee Appointment from N. A. M.

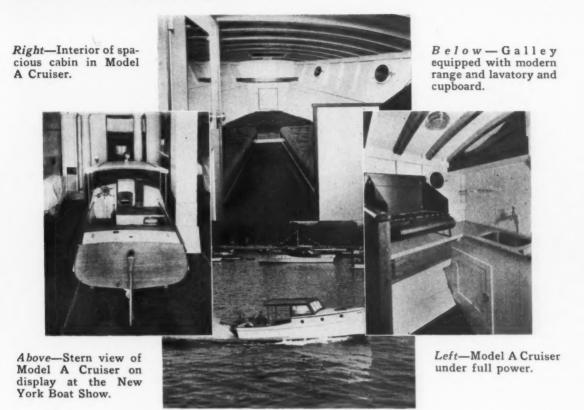
JOHN E. Edgerton, president of the National Association of Manufacturers, announced the appointment of William R. Webster to the chairmanship of the Industrial Relations Committee of the association. Mr. Webster is president of the Automatic Machine Company and chairman

of the board of the Bridgeport Brass Company. He is also a director of the Manufacturers Association of Connecticut and one of the leading authorities in the copper, brass and bronze industry.

Sea Sled Corporation Produces Wide Range of Boats

THE Sea Sled Corporation of West Mystic, Connecticut, are now producing water craft from the smallest Sea Sled, equipped with an outboard motor, to a floating sea-going palace.

Having sensed the recent popular trend of the average man toward the restful freedom of cruising in inland waters and on the Sound, the Sea Sled Corporation have recently designed their Model A Cruiser to meet this popular demand. This cruiser, designed after sea boats which have proved their seaworthiness in a blow, has cabin sleeping room for two, a con-



vertible enclosed cockpit which provides a private sleeping compartment for two, and when reversed, supplies a comfortable seat for fishing over the stern. A galley, ice box, running fresh water and toilet are also aboard. Other equipment consists of Klaxon horn, cabin and running lights, bilge pump, fire extinguisher, water tank, hardware, life preservers, rode lines, anchor, 100 feet of anchor rope, fenders and buoyant cushions. This popular model has been priced complete with bridge enclosure and curtain equipment at \$2,219, a figure which is believed to be within the reach of the average family. Sea Sleds, for which the company is so well known, are priced from \$95 up to \$4,995. Other cruisers in regular production are priced from \$2,165 to \$2,465. Special cruisers of any size and specification are also being built to special order.

● American Hardware Acquires Canadian Plant

THE American Hardware Corporation recently purchased the Springer Lock Company of Belleville, Ontario, which will in the future be known as the American Hardware Corporation of Canada, Ltd. The purchase of this plant, which

employs about 120 men in the manufacture of a line of hardware similar to that made by the American Hardware Corporation of New Britain, will not affect the plants in that city. It is said that officials plan to introduce "Corbin methods and Corbin hardware" at the new plant. The contract for the purchase of the plant was executed by President George T. Kimball.

Silent Glow Corporation to Hold Educational Convention in June

THE Silent Glow Oil Burner Corporation of Hartford, Connecticut, has selected the State Armory as headquarters for their national educational convention, to be held June 15. Already reservations have been made for booths by many accessory manufacturers, and the plans already formulated indicate that the convention will mean much to dealers from an educational standpoint. Speakers of national prominence have been engaged to address the various sessions. Approximately 1,000 people, including a large delegation from the Silent Glow Oil Burner Corporation, Ltd., of Canada, are expected to be on hand for the convention.

A complete line of Silent Glow burners will

be shown, including the new combination gas and oil kitchen range burner and the Model 1000. The Pilgrim line of space heaters, the round burners for parlor stoves, and in fact the

entire Silent Glow line, from a burner to heat a cottage kitchen to one for the largest home will be displayed in operation.

● Colt's Receive Large Rifle Order from Rochester

THE Colt's Patent Fire Arms Manufacturing Company has recently received an order for a number of new Monitor type rifles for the use of the police force in Rochester, N. Y. The Monitor, which fires 500 army cartridge shots a minute, will penetrate a steel plate 3/8" thick and because of its death-

The Silent Glow kitchen range oil

burner

Dr. Klein's Sunday Night Talks Now Broadcast over WDRC

WITH the recent addition of the Columbia network station WDRC of Hartford to the national hook-up, Connecticut and New England radio listeners may hear the regular Sunday night talks by Dr. Julius Klein, assistant secretary of commerce. The first broadcast went on the air through station WDRC at 7:00 P. M., Sunday night, May 31, and will be a regular Sunday night feature until further notice. Prior to this arrangement, consummated by the Hartford Cooperative Office of the Bureau, WLBZ of Bangor was the only station in New England broadcasting these interesting talks.

The cooperative office of the Bureau of Foreign and Domestic Commerce, located at 50 Lewis Street, Hartford, are prepared to distribute copies of these talks almost immediately upon request.

Council to Hold 23d Quarterly Meeting at Crawford Notch

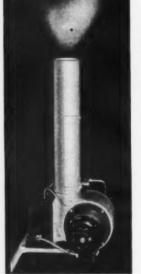
THE 23d quarterly meeting of the New England Council, which will be held at the Crawford House, Crawford Notch, New Hampshire, is scheduled for the week-end of June 26-27. Both Colonel William A. Barron, chairman of the Recreational Development Committee, and the New Hampshire Council are taking steps to make this meeting especially attractive to Council members and their families.

● Curtis 1000 Move Headquarters

CURTIS 1000, Inc., formerly located at 1000 Park Street, Hartford, have moved their general offices and factory to the former general office and factory space of the Hart & Hegeman Company at the corner of Broad Street and Capitol Avenue, Hartford. This move was said to have been made necessary

by the rapidly expanding envelope business of the Hartford

At a recent board meeting of the directors of Curtis 1000, the following men were elected: J. Blaine Howard, treasurer, and Theodore L. Hanson, secretary. Other officers of the Connecticut envelope company are: Henry Curtis, president, Hartford; George E. Wheeler, first vice president, St. Paul; and Henry H. Cowie, second vice president, St. Paul.



Model 1000 Silent Glow household oil burner in operation in the open air.

Putnam Spinners Increase Activity

BECAUSE of a recent large order received by the Putnam Spinners Company of Putnam, Connecticut, night work is being carried on.

Shetucket Mills
 Inc. Reconstruct
 Old Plant
 According to word



Let's Sell Connecticut Now-

But let's sell it wisely

We might sow a wind . . . and
Reap a whirlwind.

It's an Advertising Job.

EUGENE M. FLEMING — ADVERTISING AGENCY Hartford, Connecticut

Masses



Underwood & Underwood

Milli

Do They Kno

Masses • people • moving • up • down • across the streets of every city • town • village • in every state.

Every type • • all ages • • diverse tastes • • varying prejudices.

Comparing • shopping • buying • criticising • rejecting • accepting.

Mighty markets • millions of buying power • but always changing.

Do they know you and what Do they know your product Create and keep an attitude of those who buy what you se is always profitable.

People Are Listening fo

EUGENE M. FLEMING - Hartford,

Markets

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Know You?

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Underwood & Underwood

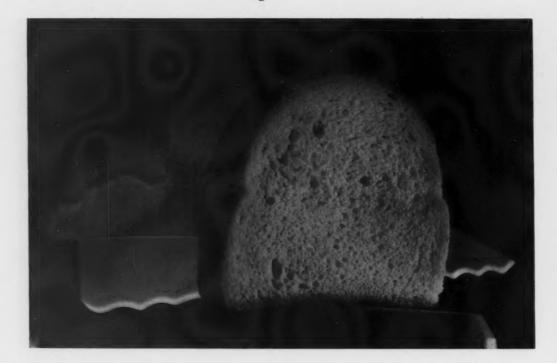
nd what you have to sell? product favorably or not? ttitude of friendliness among you sell. Wise advertising

ng for Your Story Now

ADVERTISING AGENCY

Connecticut

Advertising | s as

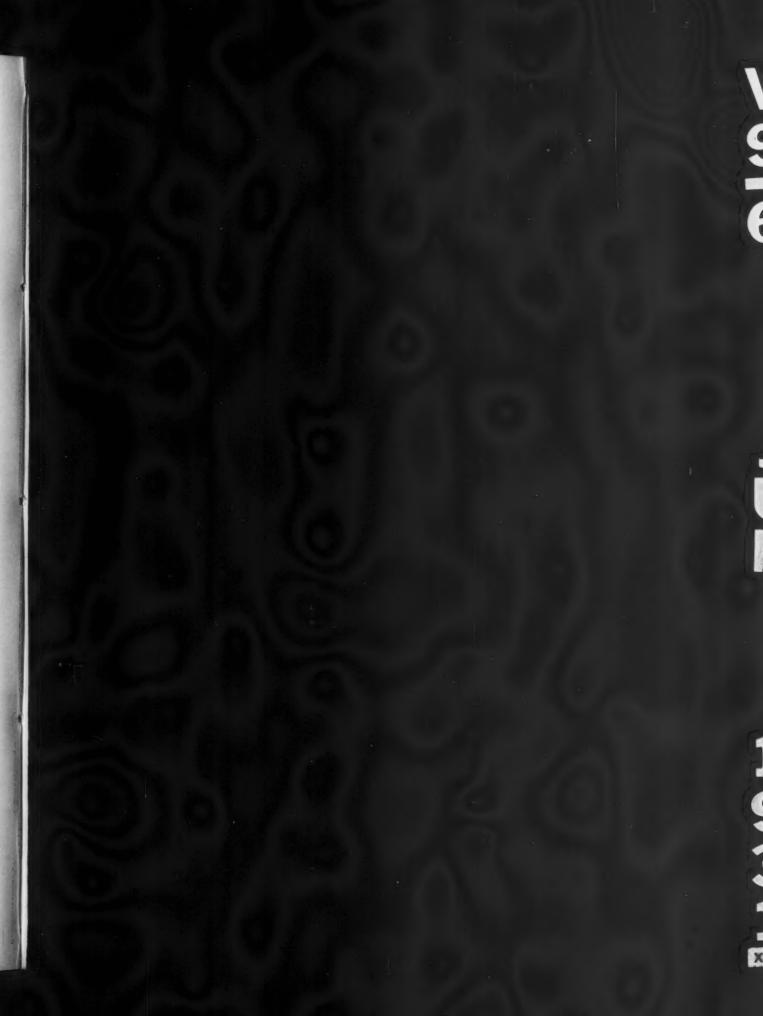


Necessary as Bread

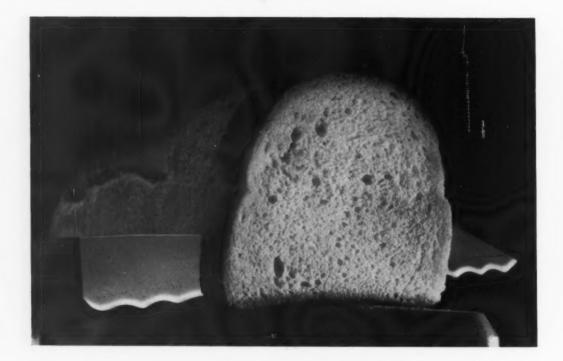
Mother's bread was always good. Do you remember how she would smile when a loaf, newly baked, was placed on the table? Little Jimmy, who always sat near her, would say, "Mumsey, this new bread is awful good." She'd reply (you know how she always looked over at Dad and smiled), "Thank you, James, but I don't think this batch is quite as good as the last."

The isolation of the days of mother's bread exists no longer. To-day we are jostling with the world for business and profit. We must have rapid Communication, quick Transportation, and effective Advertising.

EUGENE M. FLEMING — ADVERTISING AGENCY
Hartford, Connecticut



Advertising | s as



Necessary as Bread

Mother's bread was always good. Do you remember how she would smile when a loaf, newly baked, was placed on the table? Little Jimmy, who always sat near her, would say, "Mumsey, this new bread is awful good." She'd reply (you know how she always looked over at Dad and smiled), "Thank you, James, but I don't think this batch is quite as good as the last."

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EUGENE M. FLEMING — ADVERTISING AGENCY Hartford, Connecticut

recently received through Thomas D. Hanley, president of the Shetucket Worsted Mills, Incorporated, of Baltic, Connecticut, a plant formerly occupied by the company some twenty years ago has been reconstructed and equipped with new machinery, glass roofs, electrical and other equipment, and was placed in full night and day operation during the early part of May. The new plant, which employs approximately 100 people, has been put in operation to take the place of outside machinery which has been necessary to operate in order to meet delivery requirements. The main plant in Baltic has been constantly in operation both day and night for the past three and a half years, and during that period has given steady employment to about 350 people.

● Norwalk Tire and Rubber Company Conducting Successful Sales Campaign

An aggressive sales campaign, designed to acquaint the consumer more fully with the superior products of the Norwalk Tire and Rubber Company of Norwalk, Connecticut, and the introduction of major production and distribution economies have been responsible for showing a considerable profit for the six months ending March, 1931, as contrasted with losses in the same period of 1930. The sales plan which involved the formation of an association of independent tire dealers of recognized financial standing, to handle all distribution of Norwalk products, was so successful in cutting down selling, warehousing and branch maintenance expenses that the Norwalk organization was enabled to undersell all competitors without sacrificing quality or utility of product.

The material savings effected are most clearly portrayed by a comparison of the administration costs for the six months ending March, 1929, March, 1930, and March, 1931. In 1929, these costs amounted to \$235,931.00; in 1930, \$106,342.37; and in 1931, \$64,984.84. The plant is now on a six-day week, 24-hour per day basis, and showed a gross profit on sales for the six months ending March 31, 1931, of \$94,814 and net profits of \$29,830 as against a gross profit of \$57,309 and a net

loss of \$49,032 during the corresponding half of last year. This is a striking testimonial to the fact that superior products plus proper organization and sales methods will produce profits despite unhealthy business conditions.

• Unemployment Collections Discontinued in Waterbury

RECOGNIZING the increased opportunities for obtaining work that have come with spring, the directors of the Mutual Aid Unemployment Fund of Waterbury voted on May 1, to discontinue all pledges of workers who have been contributing toward the fund during the winter months. There still remains a balance of over \$20,000, of the \$330,000 raised, with which to carry persons who need aid until they can find work. According to a statement made by Louis S. Reed, treasurer of the Fund, Waterbury is, because of the way the situation was handled, the envy of every city and town in the East and especially of other Connecticut cities which had to meet the same issue by bond measures which will be reflected in their increased taxes.

Death of B. C. Perkins, Arrow-Hart & Hegeman Official

BENJAMIN C. Perkins, vice president of the Arrow-Hart & Hegeman Electric Company, died in Liberty, New York, on Sunday night, May 3, after having been in ill health for the past two years and inactive in business.

Born in Hartford February 6, 1886, the son of Charles Gove Perkins and the late Emma Francis (Chandler) Perkins, he was educated in the Hartford public schools and commenced his career as the purchasing agent for the Perkins Corporation, which was formed by his father, a pioneer in the development and manufacture of electrical incandescent lamps and other electrical enterprises.

Mr. Perkins became secretary of the Arrow Electric Company about 1905 and continued in that position until the merger of the Arrow Electric Company and the Hart & Hegeman Company in July, 1927, when he was elected vice president and director. Mr. Perkins' abil-

HADFIELD, ROTHWELL, SOULE & COATES

Certified Public Accountants

HARTFORD-CONNECTICUT TRUST BUILDING HARTFORD, CONNECTICUT

FIRST NATIONAL BANK BUILDING BRIDGEPORT, CONNECTICUT

THE FIRST-STAMFORD NATIONAL BANK & TRUST CO. BUILDING STAMFORD, CONNECTICUT



Ye Castle Inn at Cornfield Point, Saybrook, Connecticut

ity along engineering and mechanical lines contributed largely to the growth of both companies with which he had been associated.

• Western Union Extends Cable Service

THE Western Union Telegraph Company recently announced that the cable letter service (NLT) and the week-end letter service (WLT) have been extended to Lithuania on a 25-word minimum basis at the following rates: overnight cable letter, initial 25 words, \$2.13; additional words, $8\frac{1}{2}\phi$; week-end cable letter, initial 25 words, \$1.63; additional words, $6\frac{1}{2}\phi$.

• Death of Sidney Cash

SIDNEY Cash, president of J. and J. Cash, Inc., of Coventry, England, and South Norwalk, Connecticut, died at Bournemouth, on April 20.

Because of his high regard for business ethics and his constant concern over the welfare of the workers in the various Cash factories, Mr. Cash, son of one of the founders of the company, was endeared to his employes and to all those with whom he had business dealings.

His son, Reginald Cash, who was on a short visit to the United States, was forced to cancel numerous engagements and sailed for England on April 24. Mr. Frank Goodchild is vice-president of J. and J. Cash, Incorporated, of South Norwalk, and also a director of the Manufacturers Association of Connecticut, Inc.

Je Castle Inn

On the Cliff at Cornfield Point

Rainbows in the spray where waves crash the reefs below veranda and private balcony—silver magic spun by orchestra and the moon—delightful dining and individual guest rooms—spacious lounge—perfect cuisine—an atmosphere distinguished by its clientele and zestful salt air. All this with tennis, bathing, fishing, boating and dancing to delight the individual or club groups for a day, week or month.

Write or call for rates.

Je Castle Inn Cornfield Point Saybrook, Connecticut

On Old Cape Cod Bay

> You'll find this modern hotel



THE MAYFLOWER

Directly on the ocean at

Manomet Point

(Plymouth) Massachusetts

Ideally situated with sparkling ocean and green hills all 'round; our own golf course, beach and pool right at the front door.

Natural Beauty - Healthful Climate - Moderate Rates
Same Management

MAYFLOWER HOTEL - HYANNIS

Write for booklet



B-O-O-K-S-

A list of books, together with a skeleton summary of each book will appear in this column each month. These books may be purchased through the Publications Department of the Manufacturers' Association of Connecticut, Inc.

BUSINESS ADRIFT

By W. B. Donham,

Dean of the Graduate School of Business Administration, Harvard University.

This book of 196 pages, is one of the most important and talked of books on our present economic situation which has ever been written. A few of the significant questions discussed in the book are: How can we as business men, within the time areas for which we are responsible, best meet the necds of the American people, most nearly approximate supplying their wants, maintain profits, handle problems of unemployment, face the Russian challenge and at the same time aid Europe and contribute most to or disturb least the cause of International Peace? It is a critical appeal for leadership with foresight and a comprehensive economic plan for the future.—Price \$2.50.

PRINCIPLES OF INDUSTRIAL ORGANIZATION

By Dexter S. Kimball,

Professor of Industrial Engineering and Dean of the College of Engineering, Cornell University.

In the third edition of Dean Kimball's 436 page book, he presents a broad view of the development and tendencies of modern industrial organization. The engineer, the factory executive and the business director will find it a clarifying statement of general principles for guidance in practical applications to industrial management problems. Besides this large text volume the book contains 46 striking illustrations.—Price \$4.00.

TIME AND MOTION STUDY

By Stewart M. Lowry, Harold B. Maynard and C. J. Stegemerten.

This book of 377 pages and 67 illustrations sets forth a practical working system that may be applied in any industry, large or small, standard or special, with the use of simple and inexpensive apparatus, securing quick results under normal and practical operating conditions as they actually exist and with the least amount of interference with production and with the workers' mental attitudes. The authors are all practical factory time study men, now employed by the Westinghouse Electric Company and the International Derrick and Equipment Company.—Price \$4.00.



LONDON stall keepers selling to city workers are now rapidly adopting the American idea of selling candy and nuts in open-faced boxes or packages.

A non-skid memorandum pad has just made its appearance on the British market. It is said to be a boon to the busy business man who attempts to take notes with one hand while holding the telephone with the other.

HARBORS, warehouses, exhibition halls, public markets, market buildings, slaughter houses, stockyards, milk depots, canals, street cleaning and garbage enterprises, are among some of the activities now engaged in by the German Communes, the smallest administrative units of the country. This type of socialization is increasing at a fast pace in Germany.

RECENT scientific investigations of "rapid freezing" applied to the fishery products of Canada's East Coast is expected to aid the expansion of the Canadian mackerel canning industry.

THE increasingly keen competition of Oriental producers, the general world economic crisis and steadily falling prices, made the year 1930 one of the worst ever experienced by the Italian silk industry.

Proposed salary wage cuts for British railroads approximating \$47,000,000 have been pared down to \$20,000,000 by the British National Wages Board.

TELEPHONE connections have just been completed between all Swedish telephone stations and Moscow and Leningrad via Helsingfors.

The Industrial Conference at Camp Hazen

by HUDSON B. HASTINGS

Professor at Yale University

HE Seventh Annual Industrial
Conference
of Connecticut
will be held at Camp
Hazen, Cedar Lake,
Chester, Connecticut, on
June 20 and 21. The
theme of the conference
will be "Better Production Through Better Human Relations."

The aim of the annual Industrial Conference is to provide the delegates of industry with up-to-date information on the most recent developments in industrial relations in all parts of the country and to afford an opportunity for a frank discussion of the problems in this field.

Seth W. Candee, director of personnel and training for the Tide Water Oil Company will be the speaker at the evening meeting. His subject will be "Industrial Relations Trends" and his talk will be followed by another open forum hour.

The interest in these conferences has been constantly growing and they are now attended by about two hundred and fifty of the leading industrial executives, supervisors and craftsmen of the state, who find much pleasure and profit in the exchange of experiences and ideas which these meetings afford.

Organized under the auspices of the Industrial Council of the State Y. M. C. A., these annual gatherings are dedicated to the promotion of better "Human Relations in Industry." The Industrial Council has no set of procedures or policies which it seeks to have adopted by industry, but rather to provide the delegates with up-to-date information of recent developments in industrial relations in all parts of the country, and afford them the opportunity for free and frank discussion of the problems in this field with those in all ranks of industry.

The conference will open with a luncheon at 12:30 P. M. (D. S. T.) on the 20th, and this will be followed by the opening address of Joseph H. Vertrees, Associate Professor of University Extension of Rutgers University, formerly personnel superintendent at the Bayonne plant of the Tide Water Oil Company. The subject of Professor Vertrees' talk will be "Better Production Through Better Human Relations." An open forum hour will follow and then the meeting will adjourn for a recreational period of baseball, volley ball, canoeing, swimming and quoits.

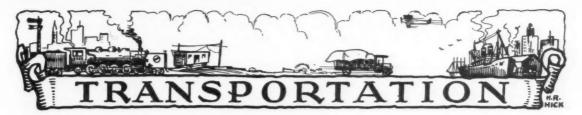
On Sunday morning, delegates from five cities will report on the progress being made on the industrial program in their localities. This will be followed by a devotional hour, led by Albert E. Roberts, general field service secretary, National Council, Y. M. C. A.

The closing session will be held at 1:30 on Sunday afternoon and the speaker will be W. Stuart Clark, general manager of the General Electric Company, Bridgeport, who will speak on "Industrial Relations of the General Electric Company."

The "Keystone Quartette" of the Pennsylvania Railroad created such a favorable impression last year that they have been secured for this year and will entertain during the conference period. The personnel of the quartette is as follows: G. Curtis Hartel, manager, 1st tenor; Joseph C. Mainwaring, 2nd tenor; Anthony E. Rodig, 1st bass; Walter G. Hanshaw, 2d bass; and Grover C. Hallman, accompanist.

The registration fee which covers all meals and overnight accommodations is \$6.00 and printed programs and registration blanks may be secured from Ira C. Matheny, State Y. M. C. A., 173 Orange Street, New Haven, Connecticut.

The conference welcomes men from all ranks of industry and it is hoped that an increasing number of companies will send delegates.



Death of B. I. Spock, General Counsel of New Haven Road

BENJAMIN I. Spock, General Counsel of the New Haven Railroad, who died suddenly in Bermuda on April 21, had been a sufferer from heart trouble for the past two years. A week before his death, his doctor advised him to take a rest and he and Mrs. Spock left for Bermuda planning to return about May 1.

Born in New Haven, December 31, 1872, Mr. Spock attended the public schools there and later graduated from Yale with the degree of B.A. in 1895 and LLB. in 1897. In 1903, he entered the service of the New Haven

road as claims attorney, serving in that position until 1906, when he was appointed counsel. Later in 1914 he was promoted to general solicitor. In 1918 he entered private practice of our Finance and Taxation Committee for many years. I share with his closer associates the feeling of personal loss, and shall miss his sage counsel."

and became general counsel of the Chase Companies, Incorporated, of Waterbury, but returned to the New Haven Road again in 1924 as general counsel, a position which he held until his death.

He was a member of the Graduates Club of New Haven and a member of the Yale Club of New York.

He is survived by his wife, the former Mildred Louise Stoughton and six children.

On learning of his death, J. J. Pelley, president of the New Haven Road, and E. G. Buckland, chairman of the Board of Directors, paid glowing tributes to his ability, character and friendliness.

E. Kent Hubbard, president of the Manufacturers



B. I. Spock, deceased General Counsel of the New Haven Road

ready to lend a cooperative hand and I felt that the Association was fortunate in having his services as a member of our Finance and Taxation Committee for many years. I share with his closer associates the feeling of personal loss, and shall miss his sage counsel."

Norman S. Buckingham

Norman S. Buckingham Succeeds B. I. Spock as General Counsel

Association of Connecticut,

showed his high regard for

Mr. Spock in the following

statement, made on hearing of

his sudden death. "It was in-

deed a great personal shock

to me to hear of Mr. Spock's

death. It was my privilege to

know him for a great many years, not only during his as-

sociation with the railroad,

but during his tenure of office

as general counsel of the Chase Companies. His unusual capabilities, his integ-

rity and his genial friendli-

ness, all made a deep impres-

sion upon me. He was always

Norman S. Buckingham of Milford, Connecticut, who began his career in the law department of the New Haven Railroad as a clerk in 1898, was made general counsel of the New Haven Road at a meeting of the Board of Directors on April 28, to succeed B. I. Spock.

Norman S. Buckingham, successor to Mr. Spock Mr. Buckingham had been Mr. Spock's assistant for the past six years. Previously, he had served as clerk and later chief clerk and assistant attorney of the law department. He gained his legal education while holding his position as chief clerk and was ad-

(Continued on page 31)



• Summary of Recent Developments

EVIDENCES of even seasonal recovery are lacking in France, although export trade has improved slightly. Business is quiet in Spain without experiencing any pronounced detriment from political changes, but unemployment continues to be a problem. Several Czechoslovak industries are experiencing seasonal recovery but gains are very slow; foreign trade increased slightly during March. Business remains dull in Finland with advance lumber sales unusually low; the depression, however, has enforced some rationalization of industry and apparently put business on a sounder basis. Trends in Canada were mixed with some slackening of business in the eastern part of the country and seasonal gains in the west.

General inactivity continues in Japan and restriction programs have generally been extended. No change has occurred in the Netherland East Indies, but merchants are hoping for a slight revival during the harvesting season beginning next month. Trading in the Philippine Islands was less active than at any time this year, and transactions in copra and abaca were negligible.

Conditions in Latin America continue uniformly dull without any prospects for immediate improvement.

Automotive Exports Continue on Up-Grade

Continuing the upward trend evidenced in February, exports of automotive products from the United States recorded the highest total since June, 1930. Exports of all automotive products during the month of March had a total valuation of \$19,916,929, a gain of \$2,715,018 or 15.8% over the preceding month. Shipments for the corresponding month in 1930, 1929 and 1928 were valued at \$39,964,968, \$78,324,879 and \$49,954,163 respectively.

Production during March was 25.7% higher than in February while exports of passenger cars and trucks increased by 31.2%. This gain was participated in by all classes with the exception of the passenger car group "over \$2000," and the heavy trucks "over 2½ tons" capacity. Especially noticeable are the higher totals for low price passenger cars as well as trucks

"under 1 ton" capacity, the former gaining 2,071 units or 29% over the February total, and the latter 1,083 units or 130%.

Twelve of the leading markets for passenger cars and six of the most important purchasers of trucks were considerably stronger in their demands during the month under review. Belgium, with increases over February of 62% in passenger cars and 146% in trucks, occupied the position of leading market, closely followed by Sweden, Canada, and Denmark in the first instance, and Denmark, Sweden and Japan in the truck group.

All of the leading truck markets, except Sweden and Argentina, were stronger than during the corresponding month of 1930.

The average unit export value of passenger cars was \$587 and of trucks \$520, as compared with \$638 and \$591 in February and \$706 and \$693 in March of last year.

• Cuba Remains Third Best Textile Market

CUBA, during 1930, remained the third best market for American textile products, despite the fact that her purchases were on a restricted scale. United States' exports of these commodities to Cuba, amounting to \$18,376,852 in 1929 and \$14,302,385 in 1930, were exceeded only by sales to Canada (\$39,620,319 in 1929 and \$28,511,363 in 1930) and to the United Kingdom (\$19,513,658 and \$20,988,815).

Among Latin American countries, Cuba maintains a considerable lead in the value of imports of United States textiles. Argentina, which ranks second, bought goods to the value of \$13,973,590 in 1929 and \$9,139,120 in 1930. The decline in shipments of American textiles to Cuba in 1930 is largely attributable to unsatisfactory economic conditions prevailing in that country.

Cuba's close proximity to the United States makes it vastly more important commercially than its size (44,164 square miles) and population (estimated at about 3,700,000) would indicate. Cuba has been one of the most prosperous of the Latin American countries, but its great dependence upon one crop—sugar—tends to make the volume of trade and the degree of prosperity fluctuate much more widely

than in countries of more diversified products and industries.

At present Cuba is passing through a severe economic crisis, worse in many respects than that prevailing in other parts of the world. For the past few years the price of sugar, the main money crop, has been so low that the buying power of the people has been greatly restricted, with a consequent sharp decrease in the sale of all lines of goods, and imports from other countries have declined considerably. With the exception of the relatively small, yet valuable, trade of the wealthier clientele and of tourists, the sale of textiles is confined practically to bare necessities of consumers. Many wholesalers have on hand large stocks of which they are unable to dispose even at very low prices. At present they are buying in the most limited quantities for immediate requirements.

The Cuban Government has been fostering, in every way possible, a policy of diversification in industry. In agriculture, an attempt is being made to get away from the dependence upon sugar and the development of new industries, including textile manufacture, is being encouraged. Up to the present no spinning or weaving mills have been established in Cuba, but there are several factories producing knit goods (chiefly hosiery and underwear) of both cotton and rayon, in and near Habana, at Guanabacao, and General Machado, the new manufacturing center sponsored by the President of the Republic. The most notable expansion has been in the production of rayon goods and prospects are that the demand for rayon yarn will increase considerably within the near future.

● Machinery Exports Show Slight Increase

INDUSTRIAL machinery exports from the United States in March registered a slight advance over the total for the preceding month, and although this figure represents a considerable drop under the total for the corresponding period of 1930, it still indicates substantial business, approaching more nearly the monthly returns compiled during 1927-1928. The extent to which the above decline has been carried is better illustrated upon a comparison of the totals for the first quarter of the present year with similar figures for 1930. During the period, January to March, 1931, shipments of industrial machinery abroad amounted to \$40,-326,000 as against \$66,275,000 established during the same period last year.

The trade in metal working machinery of the type widely manufactured in Connecticut maintained its position as leading item of machinery exports. The figure of \$10,500,000 established

for the three-month period is an extremely creditable showing in the face of a steady drop in purchasing power abroad. Activity in this trade was stimulated to a large extent by foreign shipments of commodities comprising the power driven type of metal working machinery, particularly sheet and plate metal working equipment, lathes, and forging machinery.

Foreign shipments of construction and conveying equipment, while dropping considerably below the 1930 totals, showed a substantial increase as compared with the two previous months of the present year. The total of \$1,214,000 under this classification was largely accounted for by foreign shipments of excavators including power shovels, excavator parts, and accessories and items included in the miscellaneous groups of "other conveying equipment."

The greatest decrease was registered in lines of machinery not produced in Connecticut, which fell off about 63% in comparison with the previous month's total, and 45% for the quarter. The decline was occasioned principally by a drop in foreign purchases of well and refinery equipment.

Of the remaining items, the totals for March indicate that trade in prime movers continues substantially the same as the immediately preceding months, but when considered on the basis of quarterly returns, compares unfavorably with the corresponding period of 1930. Textile, sewing (industrial), and shoe machinery showed similar tendencies, although exports under this classification for March were 20% above those for the preceding month.

Chinese Dumping Tax

For the purpose of protecting the Chinese market from dumped foreign goods, the Government has decided to collect a dumping tax on imported goods which are disposed of in China below cost or at a price lower than that prevailing on their home market. A liberal translation of the draft regulations governing the collection of such tax, which have been passed by the Legislative Yuan and are awaiting the approval of the Central Government pending promulgation, may be secured upon request at the Association's headquarters.

• Brazil Decreases Duties on Cotton Yarn

A recent Brazilian decree decreases the rates of import duty on single and twisted mercerized cotton yarn, according to a cable from Rio de Janiero. The new nominal and actual rates are given below, in paper milreis per gross kilo (old nominal rates in parentheses):

Cotton yarn, for weaving, single, mercerized,

nominal rate 1\$900 (3\$000), actual rate, 9\$469; cotton yarn, for weaving, twisted, of 2 paper and gold milreis from 6\$881 to 7\$769

(4\$000), actual rate 11\$966.

Partly offsetting this reduction is another revision of the official ratio between the Brazilian paper and gold milreis from 6\$881 to 7\$769 paper per 1\$000 gold milreis, resulting in an actual increase of about 7% in all import duties.

• Peruvian Sol Fixed at 28¢

THE par value of the gold sol, Peru's monetary unit, has been fixed at 28¢ U. S. currency by a Peruvian decree effective May 18, 1931. The revaluation of the sol will result in a surplus of 22,350,000 sols, which will accrue to the Reserve Bank, the Government receiving the equivalent in Class C shares of a new, larger and more effective Central Reserve Bank.

Another decree, effective May 1, changes the method of collection of Consular invoice fees so that of the total fee of 5% of value, 3% ad valorem will be collected at the visaing consulate in the country of origin and 2% ad valorem in the Peruvian customhouse of entry. Under the former method of assessment, a charge of 2% ad valorem was levied at the Consulate and 3% ad valorem at the Peruvian port of entry.

• Belgian Sales and Luxury Taxes Increased

In a Belgian tax revision bill effective April 29, the rates of the sales tax assessed on importations and domestic sales are doubled, thus restoring the rates in effect prior to January 1, 1930, when they had been reduced by one-half. The former tax of 1% of the duty-paid value, applying to most products, becomes 2%, and the tax of 2%, applying to pharmaceutical specialties and a few other products, becomes 4%. The luxury tax, which is assessed on certain products in place of the sales tax, is increased from 6% to 8% of the duty-paid value.

• France Increases Hosiery Duty

THE French import duties on cotton stockings and socks have been increased in amount, and changed in form from ad valorem rate to specific rates per kilo or per dozen pairs, and the new general (maximum) rates have been made applicable to imports from the United States, replacing the former intermediate rate, by a law promulgated April 28, 1931, according to a cable from Paris.

The new general rates, now applicable to imports from the United States, are as follows: cotton stockings and socks without fancy work:

weighing more than one kilo per dozen pairs, 52 francs per kilo, and weighing one kilo or less per dozen pairs, 80 francs per dozen pairs; cotton stockings and socks with fancy work, hand or machine made, weighing more than one kilo per dozen pairs, 94 or 144 francs per kilo, according to the kind of fancy work; and weighing one kilo or less per dozen pairs, 94 or 144 francs per dozen pairs, according to the kind of fancy work.

France Requires Import Licenses for Fertilizers

THE importation of certain nitrogenous fertilizers into France has been temporarily subjected to the requirement of import licenses, by a decree effective May 8, 1931.

The products for the importation of which licenses will be required include: ammonium sulphate, mixed or not with ammonium nitrate; natural and synthetic sodium nitrate; calcium nitrate; and calcium cyanamide. Import licenses are to be issued under the direction of the Minister of Agriculture, with the approval of the Minister of Finance. Applications for licenses are to be made by importers, on standard forms in triplicate, to the Direction General de l'Agriculture at the Ministry of Agriculture, Paris. Merchandise proved to have been shipped before May 7, 1931, will be admitted without licenses.

Canadian Construction Increases in First Quarter

Canadian construction projects increased steadily during the first quarter of 1931, according to a report from the Canadian Department of Interior. The awards in March totaled \$27,311,000 compared with \$25,930,000 in February and \$20,300,000 in January. March, 1931, shows an increase of 12.6% over March, 1930. Contract awards for the first quarter of 1931 do not measure up to the corresponding periods of 1929 and 1930, but exceed those of the years 1926-1928, inclusive.

Business buildings and engineering comprised the bulk of new construction, each accounting for approximately \$10,000,000 or 38%. Residential building was valued at \$5,570,000 or 20%, and industrial construction, \$1,670,000 or 6%.

Straw as Packing Material Prohibited in Mexico

THE use of straw as packing material for shipments of goods destined for Mexico is prohibited by the recent quarantine act, that placed an absolute embargo on the importation into Mexico of corn and all plants and parts of plants that might carry the European corn borer, according to a report from Acting Commercial Attaché Erwin P. Keeler, Mexico City, April 21. The quarantine regulations prohibit the importation of straw from all kinds of cereals and grasses, whether imported as such or used as packing.

Violation of these quarantine regulations makes the importer liable to a fine of from 10 pesos to 1000 pesos, and the merchandise pos-

sibly liable to destruction.

It is stated that this absolute embargo will be modified as soon as adequate fumigation and sterilization measures are found.

● New Swedish Typewriter

HALDA Aktiebolag, Svängsta, manufacturers of typewriters, textile machinery, and coin exchange apparatus, capitalized at 250,000 crowns (1 crown equals \$0.268 United States currency), recently placed on the market a new typewriter called Halda-Norden, which is retailed at 550 crowns. It is reported that the production is very limited to begin with, but the company hopes to increase its output materially for the Scandinavian markets.

TRANSPORTATION

(Continued from page 27)

mitted to the Connecticut bar in 1912. Later in 1916, he was appointed assistant solicitor and in 1918 was made counsel for Connecticut. In 1923 Mr. Buckingham was appointed assistant to Vice-President E. G. Buckland and in 1924 made assistant general counsel and right hand man to Mr. Spock.

Commission Issues Final Report on Container Service

AFTER a protracted investigation, the Interstate Commerce Commission just issued a final report approving the container car services as operated by the Lehigh Valley, New York Central and Pennsylvania Railroads and also as proposed for use by the Missouri Pacific Railroad. The Commission held that the bases of rates now charged and proposed to be charged by the railroads for this service were unlawfully low, and prescribed a new bases of rates for future application. The Commission prescribed a new rule for making container rates which is intended to be less discriminatory as concerned with rates for ordinary less-thancarload service, authorizing the establishment of rates on the net weight of the container,

which are no lower than the contemporaneous third class rates. They provided, however, that in no event shall the container rate be less than the contemporaneous carload rate on the highest rated commodity loaded in the container, and that the rate on the next class lower than the any-quantity rating in the governing classification, the respective classes above first class to be those set forth in Section 8 Rule 5 of the Consolidated Classification; subject to a minimum weight per container of 4,000 pounds.

Rate Adjustment on I. C. C. 15879 and 17,000 Part 2

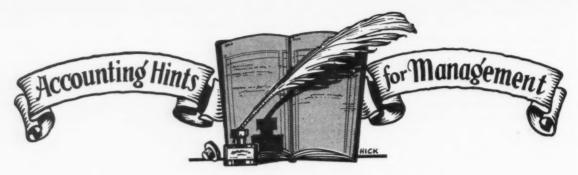
BECAUSE of the tremendous volume and the nature of the work entailed, several successive postponements have been made for the establishment of the rate adjustments in the Eastern Class Rate Investigation I. C. C. No. 15879 and the Western Trunk Line Class Rate I. C. C. 17,000 Part 2. The carrier respondents have advised that they cannot effect the readjustments by December 3, 1931, the last date mentioned by the Commission in their bulletin issued May 11. Since the Commission insists that the rates be made effective December 3, 1931, on not less than 45 days' notice to the public, it will be necessary, in accordance with the usual practice, for shippers to protest the publication of these new rates not less than 20 days prior to December 3, 1931.

• Correction of "Speed Witch" Schedule

THE schedule of the "Speed Witch," a new freight train operating between Boston and Baltimore since April 27, was changed shortly after the May issue of Connecticut Industry went to press. The train now leaves Springfield at 5:45 P. M., and Hartford at 6:30 P. M., instead of 6:40 P. M., and 7:30 P. M., respectively, as shown in the schedule published in the inside front cover of the May issue.

• New York Boat Service Resumed

Boat service between Hartford and New York was started by the Hartford Line, a subsidiary of the New England Steamship Company, on the afternoon of May 15. The boat "Middletown" leaves Hartford on Friday, Monday and Wednesday afternoons, and "The Hartford," on Saturday, Tuesday and Thursday afternoons at 5:30 p. m. Besides carrying regular freight and passengers, officials of the company have announced excursions to Saybrook each Sunday in June, leaving Hartford at nine o'clock. The steamer will make regular stops for passengers and freight at Middletown, East Haddam, Essex and Saybrook.



Data contributed by the Hartford Chapter, National Association of Cost Accountants

Obsolescence: An Accounting Term and an Industrial Factor

THE term "Obsolescence" for accounting purposes is used to denote the gradual diminution in the value of equipment due to probable improvements in the arts and in manufacturing processes. It is usually associated with the term "depreciation" and the so-called "provision for depreciation" usually contemplates covering both the loss (expense) sustained from actual usage, wear and tear, and from the less determinable factor of obsolescence. This expense is usually charged to the operating expenses for the year.

A far more vital significance was attached to this term "obsolescence" by Champe S. Andrews, Vice President of the National Folding Box Company, New Haven, in a recent address before a joint meeting of cost accountants and sales managers. He extended its use to the various factors which contribute to bring about the decline or failure of established businesses, methods and standards. His outline of the major causes was impressive, and with his permission is summarized below:

1. New Discoveries as to the Workings of the Laws of Nature. The discovery that pictures taken in motion at a speed of sixteen photographs per second and then passed before the human eye at the same rate gave the impression of continuous motion, led to the invention of the motion picture. Likewise, the discovery of the principle of the vacuum tube and other pertinent discoveries led to the perfection of present day radio. The devastating effects of these new discoveries on established and apparently permanent concerns is obvious.

2. New Inventions. The fate of the carriage industry as the result of the invention of the automobile, is a matter of history. To a lesser extent, the same course of history is in vention.

the making in steel cars vs. wooden cars, paper shipping cases vs. wooden boxes, paper containers vs. glass jars.

3. NECESSITY FOR MASS PRODUCTION. This was illustrated by the necessity of The General Motors to reduce the required time for painting a car from twenty-seven days to three or four days to achieve quantity production. Extensive research found the solution to the problem, thus making former practices obsolete.

4. CHANGES IN BUYING HABITS. One of the outstanding factors tending to upset established concerns is changes in fashions and styles, and in the buying habits of the public. Brushless shaves are replacing the old shaving mugs; buttons, etc., are giving way to zippers.

5. PRICE CUTTING. The detrimental practice of price cutting may operate in two ways to cause obsolescence; first, by cheapening the quality and killing the use of a product, and, second, by making it impossible to profitably use productive machinery.

Some of the forces outlined above cannot, and should not, be curtailed as they represent steps of progress. Rather, it behooves the industrial executive who would protect the existence of his business, to be alert to the possibilities of the destructive forces, and to engage in creative work and research, to find new uses for his products and to enter new fields.

• Cost Accountants Convention

THE Twelfth Annual Cost Accountants Conference will be held at the William Penn Hotel, Pittsburgh, Pa., June 15, 16, 17 and 18, 1931. The sessions will be devoted to a study of the new problems which must be solved to meet present day conditions. Accountants and industrial executives are invited to attend the convention.

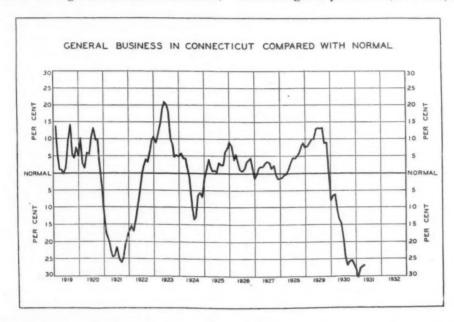
HOW'S - BUSINESS

• General Summary

Although the composite index of general business activity in Connecticut made another slight advance in April, the movements of the component items were highly diverse. Cotton textile mill activity increased approximately 16% over the previous month and was not only above normal but at the highest level since November.

pears likely to occur before the advent of the fall buying season.

In April in the United States, business activity also increased for the third consecutive month. Freight car-loadings, automobile production, electric power production and cotton mill activity all showed sizeable gains over March. Pig-iron production, however, remained



1929. The number of freight car-loadings originating in Connecticut also increased to a new high point for the recovery. On the other hand, industrial activity fell off somewhat more than seasonally but maintained itself above the January low. The amount of iron, steel and copper carried by the New Haven Road declined moderately after advancing sharply during the two preceding months and bank debits to individual accounts and employment in Connecticut factories fell off from March.

The prospects for the next few months are that the trend of business will continue slowly upward when allowance has been made for the usual seasonal changes. No marked rise apunchanged from a month earlier while production of steel ingots declined more than seasonally. In spite of the falling off in steel ingot production, orders booked during the month increased to the highest level since last July while the decline in unfilled orders of the United States Steel Corporation for the month was small when compared with the decreases in previous years.

The downward trend of wholesale prices showed no signs of abatement during April. According to the weekly index of the Annalist, wholesale prices averaged only 6% above the 1913 level during April and 4% above on May 12th. Four groups of commodities—farm prod-

ucts, textile products, chemicals and miscellaneous, which includes rubber—were lower in price than in 1913. Metals average 3% above the 1913 level on May 12th while food products were up 11%, building materials 20%, and fuels 25%. The cost of living declined further during April but still remained some 40% above the pre-war level.

• Financial

STATISTICS for the number of real estate sales and the value of mortgage loans have been highly encouraging. During the four weeks ended May 9th, real estate sales advanced sharply to a point only 7% below a year ago while the value of mortgage loans also made a satisfactory showing and ran only 12% below the corresponding period of 1930. Business failures exceeded last year by 7% compared with 21% a month ago whereas net liabilities of failures increased 19% over 1930 against a much higher figure four weeks ago. The number of new corporations formed and the total capitalization continued to run well below last year.

• Construction

THE total value of new building contracts awarded in the United States, after being corrected for seasonal variation fell sharply during April to the lowest level yet reached in the current depression. Unfortunately, no information is yet available for May which might indicate whether the April decline was temporary or was being followed by a further easing in new building. Construction work has also slumped in Connecticut except for several large public and educational projects.

● Labor and Industry

INDUSTRIAL activity in Connecticut manufacturing plants decreased slightly more than was seasonally expected during April. Bridgeport was the only city to report an increase in the number of man-hours worked as compared with March. Declines of man-hour activity of greater than seasonal magnitude occurred in plants in Bristol, Meriden, New Britain and New Haven. Small decreases in the number of employees on factory payrolls took place in Torrington and Waterbury but, in Hartford, the falling off in employment was quite sharp. Mid-

dletown reported that wage cuts of 10% affecting a total of some 800 employees were instituted in various plants in the city. In eastern Connecticut where the textile industry is dominant, business was at the highest level in over a year.

During the four weeks ended May 14th, substantial decreases occurred in the percentage of applicants given employment to the total number asking for employment. Skilled as well as unskilled workers were affected and surpluses of labor were indicated in all cities in the State.

Employment in factories in the United States continued the slow recovery started in March. Actually, employment decreased in April but the decline was less than expected. Payroll totals also fell off less than seasonally. Industries showing gains in employment relative to the usual seasonal trend included cotton goods, men's and women's clothing, leather and rubber boots and shoes, petroleum refining and stamped and enameled ware. Silk and woolen goods, agricultural implements and foundry and machine shop products reported fewer employees while no change, other than seasonal, occurred in machine tools, hardware, automobiles and iron and steel.

• Trade

Considering the fact that a large part of the Easter trade this year came in March whereas a year ago it was in April, retail trade in April, as measured by department store sales, was exceptionally active. The index of the U. S. Federal Reserve Board, which allows for seasonal variation and the shifting date of Easter, advanced 8% over March to the highest point since May, 1930. Collections were fair and unfilled orders were conservative.

• • Transportation

As mentioned above, April freight car-loadings originating in Connecticut registered a decided gain over March. Loadings of automobiles, building materials and merchandise in less-thancarload lots all showed substantial gains relative to the usual seasonal trend, while loadings of bituminous coal fell off sharply. Unfortunately, returns for the first third of May indicate that loadings have fallen off somewhat more than expected from the April peak.





Summary of State Legislation from April 20 to May 20

THE Legislature recessed May 20, until Tuesday, May 26, giving the Governor sufficient time to sign or veto all bills which were recently passed by both Senate and House. According to latest advices, the Legislature will adjourn on Wednesday, May 27.

Our prediction of last month, regarding the fate of the Old Age Pension Bill was correct. The bill was reported unfavorably by the Judiciary Committee and another raised in its stead, providing for a commission of five to study the question of old age pensions for the next two years. After a stiff fight, led by Senator Lavery, the original bill was defeated and the committee bill passed by the Senate and House. The commission will be appointed by the Governor before July 1, 1931.

Both the Commission's Bill on state employe pensions, containing the contributory feature as proposed by Howell Cheney and the bill drafted by the state employes, providing noncontributory pensions, were reported unfavorably on May 20. Another bill was raised in committee providing for continuance of the commission to study the question further. In a scurry of irony following the Judiciaries' recommendation to continue the commission, House Minority Leader Citron expressed doubt that the Judiciary Committee of 1933 would pay any more attention to the pension commission recommendations than the present one. Miss Cheney, a majority House member, said that if the people of Connecticut wanted their pockets picked the state employes non-contributory pension bill No. 858 should be passed.

A bill was passed to continue the Connecticut State Emergency Committee on Unemployment. The appropriation provided was \$20,000.

The Tax Commission Bill S. B. 261, favored by the Finance Committee has been referred to the Appropriations Committee where it will probably die,

The forty-eight hour bill for women reported unfavorably, has been accompanied in defeat by all other hours of labor bills affecting special establishments.

A bill concerning the giving of information to assessors relative to yachts, watercraft and motor boats has been defeated. This legislation was opposed by the Association.

A bill, known as the Graduated Property Tax Exemption Bill, drafted by representative Cramer, seems to have considerable merit and will likely be reported favorably. The bill does not increase the tax exemption to veterans but provides a fair and equitable exemption based on the degree of disability rating set by the United States Veterans Bureau.

Substitute bill for S. B. 331, to investigate the rate and operation of motor trucks, was reported favorably by the Motor Vehicle Committee, passed the Senate, but was tabled in the House.

A bill providing that nobody but citizens be employed on public works, that the eight hour day be enforced and that the prevailing wage scale in the community be paid will likely be reported favorably after several changes have been made.

A large number of changes in Motor Vehicle regulations have been included in the Omnibus Bill S. B. 985 which has already been passed by the House and Senate.

Mrs. Alsop's Bill for more stringent regulation of outdoor advertising signs was unexpectedly tabled on May 20.

A complete digest of the important bills of interest to manufacturers which have been considered during the 1931 Legislature will be compiled and sent to members in the near future.

SHIPPERS ATTEMPT COMPROMISE

(Continued from page 13)

petitive western part of Trunk Line territory.
The Shippers' Committee suggested larger

The Shippers' Committee suggested larger groupings on long hauls into these territories so that New England industry might continue to compete successfully in Trunk Line territory with the manufacturer located a comparable distance from consuming points in Central Territory. Claiming that the larger grouping plan would cut down their revenue below the mileage basis, the carriers refused to give it any serious consideration. Although skeptical as to the possibilities of working out an elastic

grouping that would benefit shippers and produce sufficient revenue, the carriers agreed to entertain shippers' overtures on a modified basis. Much to the surprise of the carriers, and also many shippers, a modified plan was worked out by N. W. Ford, Traffic Manager of the Association. It provided for varying groups dependent entirely upon the length of haul into Trunk Line territory.

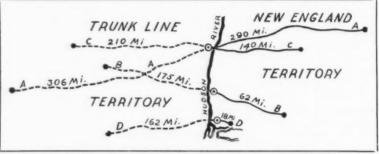
The Ford Plan

The modifield plan, known as the Ford Plan, proposed to divide New England into zones of 20, 50, 75 and 100 miles by forming elastic boundaries extending eastward from the principal Hudson River

gateways, such as Harlem River, Poughkeepsie, and West Albany, New York. Such boundaries were to be determined by zoning eastward from each of the principal gateways on a short line railroad mileage basis. The 20 mile zone was suggested for use on traffic to and from points in Trunk Line territory, which were not more than 149 miles west of such gateway. On traffic from New England points to Trunk Line territory between 150 and 199 miles west of the Hudson River, the 50 mile zone was suggested. The rates applying would then be determined by adding the actual distance west of the Hudson River gateway to the minimum distance to the western boundary of the group plus the average distance within the group (see map).

On all shipments between New England points and those in Trunk Line territory between 200 and 249 miles west of the Hudson River, the plan suggested the use of a 75 mile block in New England. The rate would then be determined by adding the average mileage within the zone, which in this case would be 37 miles, to the minimum distance to the boundary of the zone, plus the actual mileage from the gateway to the point of destination in Trunk Line territory (see map).

When shipments destined to, or originating



A—Mileage for rate purposes is determined by adding 306 miles, distance of haul in Trunk Line Territory, to 200 miles, distance to western boundary of zone applying in N. E. Territory, plus 50 miles, or average distance in the zone, which equals 556 miles or a deflation of 40 miles.

B—mileage determined by adding 175 + 50 + 25 = 250 or an inflation of 13 miles.

C—mileage determined by adding 210 + 75 + 37 = 322 or a deflation of 28 miles.

D—mileage determined by adding 162 + 25 = 187 or an inflation of 7 miles.

in New England, were to move 250 miles or more in Trunk Line territory, the Ford Plan divided New England into zones of 100 miles each. Assuming that a freight shipment was to be moved from a point 320 miles east of the nearest gateway on the Hudson River to a point 255 miles west of the gateway in Trunk Line territory, the total mileage for rate purposes would be as follows: 255 plus 300 plus 50, or 605 miles. In this case, it would amount to a mileage increase of 30 miles. If the point were 375 miles east of the Hudson River gateway it would give the shipper a deflation of 25 miles.

By working out a few of these mileages, on the basis outlined in the plan, a shipper will observe that the results show increased rates as well as deflations. Since the plan permits the shipper to compute the distance from the nearest gateway, average reductions of 1¢ per hundred are obtained under the rates which are effective under the Commission plan.

Ford Plan Urged

After all the details of the Ford Plan had been completed, W. R. Price and N. W. Ford presented it to the New England Grouping Committee, a body composed of shippers from each New England state and representatives of each of the New England railroads. At the end of an all-day session, the Shippers' Committee, headed by W. H. Day of the Boston Chamber of Commerce, approved the plan unanimously. It was then submitted to the railroads for consideration. At a subsequent meeting of the New England Grouping Committee, railroad executives disagreed with the plan, mainly on the ground that it would reduce the revenue below the mileage scale, which they would be entitled to receive under the Commission's plan.

Later, in New York, J. F. Atwater, Transportation Manager of the American Hardware Company, and a member of the Association's Transportation Committee, W. F. Price and N. W. Ford explained the plan to a representative group of Trunk Line shippers. They agreed with New England shippers on the principle of the plan.

Further Attempts at Conciliation Blocked

Despite the favorable action on the Ford Plan by one group of Trunk Line shippers, the Trunk Line carriers made little or no effort to discover the sentiment of shippers in other parts of their territory. In subsequent conferences, the Trunk Line carriers turned down the Ford Plan and the New England Carriers Plan. Since it is generally understood that rates are now being compiled by the New England Freight Association on the so-called 20-mile base point plan, it appears that the carriers are unwilling to accept other than the groupings indicated by the Interstate Commerce Commission in their Eastern Class Rate Investigation report. If these groupings are made effective they will be all the more noticeable to shippers because of the contrast with the present large groupings on traffic moving between New England and Trunk Line territory. For example, the present rate to or from Pittsburgh, Penna., to Portland, Maine, is the same as the rate to or from Stamford, Conn. On the new basis the rate between Portland and Pittsburgh would be in-

creased materially over the rate between Stamford and Pittsburgh. Similar increases would also become effective between other competitive points.

Conclusions

In order to perfect a modified plan, equitable to both shippers and carriers, Mr. Ford has given literally weeks of his time. Mr. Price and Mr. Ford secured the backing of New England shippers on the Ford Plan, and later made every effort to assure its adoption by New England and Trunk Line carriers. Although unsuccessful in their efforts, they have left no stone unturned to secure a more favorable rate basis for Connecticut and New England manufacturers and merchants.

If New England industry and commerce is unable to compete under the new scale of rates, certainly none of the blame can be attributed to a lack of cooperation on the part of representative shipping groups in this section.

LAND OF SCENIC SPLENDOR

(Continued from page 12)

in the state are protected by law, and if the caribou ever come back they will be given like immunity; but deer may be killed in the fall, along with such small game as rabbits. Protection will be lifted from gray squirrels in 1935. Beaver are gaining steadily in numbers, but there is a law for their protection and they may not be hunted or trapped at any time.

Grouse, woodcock, pheasant, duck and golden plover may be hunted in the autumn, but upland plover, quail and wood duck, though they may at times be seen in flight, are protected by law. Song birds, and other wild birds have been given perpetual protection, with the exception of the more or less destructive English sparrow, crow, hawk, starling and owl.

Game fish, which may be caught in the spring and summer, include square-tailed or brook trout, aureolus and lake trout, salmon, black bass, muscallonge, pike perch, white perch, pickerel, shad, whitefish, horned trout and fresh water smelt.

Fishermen and hunters must secure licenses. These are not costly however, and copies of the game laws may be secured from the Fish and Game Department.

The nature lover, the sportsman, the mountain climber, the swimmer, camper and golfer will all find what they seek in New Hampshire. It not only is a land of scenic splendor but a land of unrivalled opportunity for enjoyment.

THE HUMAN FACTOR IN INDUSTRY

(Continued from page 9)

rangement of the type boxes, based on the normal frequency with which the different letters are used, resulted in a reduction of hand motion by about 20%, in a study noted by F. M. Southington in the "Journal of the National Institute of Psychology, 1922." A German psychologist, about five years ago, undertook experiments to determine the relative effectiveness of such devices as levers, crossbars, and wheels, with some interesting results.

Efficiency has been improved by relieving the operator of discretion. An investigation about ten years ago indicated that chocolate-packers' fatigue was largely mental, resulting from the choice necessary to bring about an artistic arrangement. A new lay-out, which enabled them to select the pieces in a predetermined sequence, resulted in a general increase in daily output. A rudimentary example, to be sure, but the rule holds good in countless industrial operations, particularly perhaps in assembling.

It might seem strange that the shape of a tool handle could have an important effect on efficient production, but experiments with different types of handles, and tests made thereafter on a dynamometer—an instrument to register the strength of grasp—indicated that some handle contours held a decided advantage over others. It might seem odd that the carrying of loads, the oldest of human burdens, could be improved by the application of psychological principles. Yet, by the use of an instrument which registers the consumption of oxygen, it has been possible to determine the relative superiority of various methods.

A physical abnormality of the individual—his stature, perhaps—may make minor readjustments in work methods desirable. The height of the chair relative to that of the work-bench, for instance, is a well-established influence on fatigue. Individuals differ, too, in their sensory perception. Work methods evolved to fit persons of the visual type must be adjusted when performed by persons of the auditory type. Even machine speeds react differently on the psychomotor mechanism of different workers.

Rhythm-a Force in Economical Motion

Efforts are being made to learn whether any aspects of the phenomenon of "rhythm" may

be capitalized in the interest of industrial efficiency. There is a fundamental economy in rhythmical performance in that we get a repetition of the act without necessarily a repetition of the impulse. So, if a performance can be made rhythmical, it will involve less decision and greater economy of effort. If a hand-feed machine runs irregularly, the operator must govern his movements by his eyes alone, but if it goes at a uniform speed, he may adapt his motions to a uniform time-interval, and develop a rhythm which will call for little effort and little scrutiny. It is well established that the shortest pathway is not always the most efficient economy of motion. Sometimes a longer motion, but a rhythmical one, will be less fatiguing. Coal miners, after a motion-study of this kind, found it more effective to swing the pick in a circular fashion, thus obviating the effort of starting and stopping each stroke. Rhythm in industrial operations has a further advantage in that an act which is performed normally with a given amount of force will actually get greater muscular innervation if it is performed rhythmically, an effect technically called "dynamogenic.'

Industrial Fatigue and Its Relief

The relief of preventable fatigue is another field in which the psychologist has been summoned to the aid of industry. Unfortunately we have developed no entirely adequate measure of fatigue; so, aside from a few tests of muscular reaction or sensory perception, we are compelled to fall back on the more obvious indication given by production or accidents. Where hourly production records are available, the curve will usually show an upward trend for the early morning hours with a leveling off at mid-morning, and a noticeable decline toward the lunch hour.

The afternoon curve will show a similar trend. Other factors may influence output, of course, such as conscious limitation of production, variations in individual incentive or interest and domestic distractions or worries; but in the main, the production curve is a fair indication of fatigue. An hourly curve of accident frequency is equally illuminating. On the average, it will show the earlier morning and afternoon hours comparatively free from accidents; but the curve will usually mount rapidly until the

final hour, when there will be a noticeable dropping-off, due perhaps to slowing down, which will eliminate some of the false motions and

probably decrease accidents.

There are several approaches to the elimination of industrial fatigue which show some promise; some of them are quite obvious. Many types of work, for instance, can be done just as effectively sitting as standing, yet we can all remember when the trolley motorman spent his whole day on his feet. Mechanical devices for lifting, such as pneumatic hoists, are being used to replace human muscles; and the increasing use of electrical energy as a motive power even in office devices is a development of these later days. The workers' surroundings may play a rôle in the accumulation of fatigue—insufficient space, clutter, faulty illumination with its dis-

traction and its consequent wearing down of the ocular mechanism, vibration which calls for unconscious muscular adjustment, noise with its subconscious hammering on the nervous system—all take their toll and can be corrected, at least in part. Sometimes a shortening of the work day brings gratifying results. In other cases,

astonishing increases in production have been brought about by the introduction of compulsory rest pauses. To correct faulty illumination, there are numerous measuring instruments. To abate unnecessary noise, the psychologist can avail himself of the more recent advances in sound technology. He can often make mechanical adjustments dealing with the type of tool preferable, as was the case in a large steel company, where, by selecting shovels of different sizes for different materials, 140 men did the work of 500 without any more fatigue.

Factory Welfare Plans

If space permitted, I could recite numerous other phases of the increasing attention to the human factor in industry, through the application of psychological principles or otherwise. Some of our Connecticut plants have inaugurated extensive medical programs, not only for the care of industrial injuries, but also for disabilities not directly traceable to occupational causes. Pensions or retirement plans, as an expression of the company's appreciation for long and loyal service, are in effect in many of our large concerns; and a survey conducted by the Manufacturers Association indicates that Connecticut manufacturers paid out to their retired employes during 1930 over a million and a half dollars. Athletic programs and other extra-factory activities have been introduced to afford the workers a vehicle of self-expression. Company-aided housing programs, stock participation plans, and profit-sharing schemes have come into wide use in the effort to improve the economic status of the worker. Rewards have been established for suggestions for the improvement of the company's operations; and

the question box is now to be found commonly at the company bulletin board. The employment office has flowered into a complete personnel department, the director of which now undertakes responsibilities and contacts which in the older days would have been left to the family's spiritual adviser or the probation

officer; and we get some hint of the importance with which this department is regarded when we find that in most plants the personnel director reports directly to the chief executive.

The critical analysis of every factor which can influence profitable operation comes about through our present-day emphasis upon the elimination of waste in whatever form. Likewise, the increasing sensitiveness of industrial management to public opinion has hastened the development of those things which tend to evoke a favorable public reaction. But above all, the increasing social-mindedness of management has been the prime force in the great forward strides which industry has made in its attention to the human factor. And, with characteristic American ingenuity, industry has hastened to turn to its use the latest technique of the classroom and the laboratory.





This department is conducted for the benefit of members without charge. Information concerning any kind of executive help will be furnished on request

● ● Employment Service

TIRE INSPECTOR OR NIGHT WATCHMAN—A Spanish War veteran, with considerable experience as a factory watchman, former watchman at the State Capitol, more than three years' experience as tire inspector, is very anxious to locate a job along these lines. Any reasonable salary acceptable. Address P. W. 139.

MANUFACTURERS' REPRESENTATIVE — A. Ramos Medina, manufacturers representative wants to represent reliable Connecticut manufacturers. Box 3657, San Juan, P. R.

AUDITOR AND ACCOUNTANT—An experienced auditor and accountant seeks a position with a Connecticut manufacturer. Good on costs, financial statements, credits, and office management. Age 43, Protestant, married, willing to locate anywhere. Moderate salary. Address P. W. 141.

MARKETING SPECIALIST—A man of unusual ability with nine years' college training, covering academic, electrical engineering, and advertising and marketing, whose experience has likewise been broad as a lecturer and consultant on marketing subjects, as advertising manager and vice-president of four different advertising agencies and several other equally high caliber assignments, would like to become connected with a large corporation as marketing counsel. He would also consider a small company, if the management is receptive toward change in marketing procedure. Address P. W. 142 for further information.

SALES EXECUTIVE—Successful sales executive in a position to invest a moderate amount of capital, a graduate engineer, with fifteen years' sales and executive experience, wishes to associate himself with a concern, fundamentally sound and with good expansion possibilities, as a member of the firm, or would like to hear from concerns in need of sales representation, in regard to turning their sales work over to him on a manufacturer's representative basis. Address P. W. 143.

NINE YEARS' SERVICE IN SOUTH AMERICA—with W. R. Grace & Company have prepared this man to effectively represent some manufacturer or group of manufacturers in that market or render valuable help to a busy export manager here. Immediate importance of position a minor consideration if opportunity is provided for constructive work. American, 35, married. Address P. W. 144.

MANUFACTURING EXECUTIVE—A man of wide experience as a manufacturing executive, who has formerly held such positions as general manager of a truck manufacturing company, assistant factory manager of a motor manufacturing company, and executive positions of merit in several other industrial establishments, desires to locate in a similar capacity with a Connecticut or New England manufacturer. He has been highly recommended by his employers and those with whom he has had business dealings. Address P. W. 145.

PLANT CHEMIST—a Cornell graduate who majored in chemistry, who has had twelve years' experience in two of the largest chemical plants in the country as supervisor and research man, and during the same period been connected with two large oil companies in their chemical divisions, desires to become associated with a Connecticut or New England manufacturer in a similar capacity. References—all former employers. Address P. W. 146.

OPPORTUNITY—Because of the death of its chief executive, a successful company manufacturing candy machinery is seeking, through its engineering advisors, a strong executive with a broad knowledge of some branch of the food machinery manufacturing business, or will consider merging with another strong manufacturer of machinery. Prior to 1930, this company did an annual business of approximately \$3,000,000. For further information address S. E. 21.

WANTED—TO BUY STAPLE BUSINESS. An old established Connecticut manufacturer desires to purchase outright a small metal working or hardware manufacturing business, to add to present lines. Machinery, raw material and finished stock will be moved to purchaser's factory. Address S. E. 22.

• For Sale or Rent

FOR SALE—All kinds of office furniture and equipment, such as typewriters, adding machines, dictaphones, safes, etc. Will be sold at a bargain as it is duplicate equipment from a concern in New Haven which we have bought and which we are now moving. Address C. Cowles & Company, Water and Chestnut Streets, New Haven, Conn.

FOR SALE—1 Dictating Machine; 1 Transcriber; 25 Double Tier Lockers, 12" x 12" x 42", one tier of 5, one tier of 6 and two tiers of 7 preferred. Address R. Wallace & Sons Manufacturing Company, Wallingford, Conn., immediately, giving full description and best cash price.

FOR RENT—The Snow & Petrelli Manufacturing Company of New Haven offer for rent 13,000 square feet of manufacturing space, all on one floor, of their brick mill construction building in New Haven. For description, see their advertisement on inside back cover of this issue of Connecticut Industry.

• For Sale—Services

WANTED—JAPANNING WORK in quantities or job lots, by a progressive Connecticut manufacturer who is equipped to japan small wares either by tumbling or spraying. This company is now japanning aluminum golf tees, upholstering nails, spraying hinges and a variety of screws and other small articles. Address The Patent Button Co., Waterbury, Connecticut.

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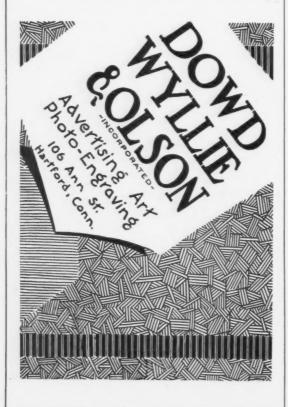
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